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| Terry L. Carpenter, Capt, USAF, BSC | (512) 536-3471 | USAFSAM/EKEN |

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Correspondence to:

Capt T. L. Carpenter
USAFSAM/EKEN
Brooks AFB TX 78235-5301
Tel. (512) 536-3471
AUTOVON 240-3471

# Human Envenomization by Plectreurys tristis Simon (Araneae: Plectreuridae): A Case Report

T. L. Carpenter[1], B. J. Bernacky[2], and E. E. Stabell[3]

## Abstract

A case of human envenomization by a plectreurid spider, Plectreurys tristis Simon, is reported. The patient was bitten on the calf of the leg and initially experienced pain, edema, and slight pallor at the bite site. Numbness persisted for approximately 1 hour in the affected leg. Symptoms resolved without specific treatment, and no additional complications were observed. This is the first report of human envenomization by P. tristis.

**Key Words:** Araneae, Plectreuridae, Plectreurys tristis, spider, human, envenomization

Envenomization of humans by spiders is relatively uncommon, but the bite of a few species can cause serious complications. We present the first report of human envenomization by a plectreurid spider, Plectreurys tristis Simon (Araneae: Plectreuridae).

## Case Report

At 11:25 p.m. on 2 June 1990, a 15-year-old male reported to the emergency room of the Air Force Systems Command hospital at Edwards Air Force Base, Kern County, California, after having been bitten by a spider. Approximately one-half hour previously, as the patient was putting on pajamas, a spider inside the pants bit him on the posterior aspect of the calf of his right leg, approximately 10-15 cm distal to the knee. The patient captured the spider and presented it to the physician upon reporting to the hospital. The specimen was forwarded to the Medical Entomology Section, USAF School of Aerospace Medicine, Brooks Air Force Base, Texas, for identification.

Initially, the bite produced pain, edema, and slight pallor at the site. The patient expressed some fluid from the wound immediately after the bite. The initial symptoms persisted for 15-30 minutes, and after reporting to the hospital the patient reported vague, diffuse numbness distal to the right knee.

Physical examination of the patient revealed a small puncture on the right posterior calf of his leg. There was no local erythema, enduration, ischemia, or neurologic abnormality at the time of the examination, approximately 45 minutes after the bite occurred. Motor and reflex functions were intact. Supportive care was provided and the patient was observed for 2 hours, after which all symptoms resolved. No specific treatment was required. The patient was released with instructions to return if there was any recurrence of symptoms. There has been no indication of further complications.

## Discussion

The spider was a mature male of medium size (approximately 11 mm in body length, 26 mm overall length with legs extended), dark brown, with moderately long, robust legs. The fangs of the specimen were about 1 mm in length, heavily sclerotized, and sharp enough to pierce human skin, especially if the spider were pressed tightly against the skin. Under a dissecting microscope at 10-20 power, it was readily identifiable as a member of the family Plectreuridae from diagnostic characters. Kaston's (1978) keys were used to identify the specimen to species: Plectreurys tristis Simon.

Spiders in the family Plectreuridae occur principally in North America, though some species are known in Central America

(Kaston 1978, Gertsch 1979). Plectreurid species have been reported from arid regions in the southwestern United States and adjacent Mexico, from scattered localities of eastern and southern Mexico, and from Costa Rica and Cuba. There are two genera with over 30 species in the family. Plectreurys tristis has been reported from California, Arizona, Nevada, Utah, and Idaho. An extensive search of the literature did not produce a report of human envenomization by any species in the family Plectreuridae.

Plectreurid spiders are classified in the superfamily Plectreuroidea, which contains 12 families of primitive hunters and weavers (Gertsch 1979). Three plectreuroid families (Loxoscelidae, Dysderidae, and Segestriidae) each contain a genus of spiders whose bite has been shown to have medically significant effects on humans. The family Loxoscelidae includes the recluse spiders, Loxosceles species, the venom of which is known to be cytotoxic (Maretic 1987). In the family Dysderidae, the bite of a New Zealand species, Dysdera crocata C. L. Koch, caused sharp pain that persisted about 15 minutes (Watt 1971). The family Segestriidae includes a European species, Segestria florentina Linnaeus, whose bite has been observed to cause local edema, erythema, and pain, with vertigo and nausea in one case (Maretic and Lebez 1979). The venoms of Segestria and Dysdera are not considered to be particularly dangerous to humans (Bucherl 1971, Bettini and Brignoli 1978).

The spider that bit this patient presumably originated from a natural population near his home in a residential section of North Edwards, Kern County, California. Plectreurid spiders build a silken tube as a retreat, with the entrance ringed or fringed with silk (Gertsch 1979). These retreats are found under stones, in debris and crevices, and in small holes along the edges of streams and roads, etc. The spiders stay in the bottom of the retreat during the day, but venture out during the night to hunt arthropod prey. It is probable that this spider was hunting when it wandered into the patient's house.

The symptoms exhibited by the patient in this case indicate that the effects of P. tristis envenomization in humans may be relatively benign. Envenomization may occur with some frequency, but may be overlooked or go unreported because of the quick resolution of symptoms and lack of sequelae. The clear fluid expressed from the wound immediately after the bite may have been venom. Consequently, the patient may have minimized the envenomation, resulting in less serious symptoms and/or briefer duration of symptoms.

The lack of previous reports of human envenomization by a plectreurid spider may be explained by the limited range of the spider, the relatively low density of humans within that range, and limited opportunity for contact between man and spider. The

envenomization reported here was strictly accidental. Plectreurys tristis Simon, like all spiders, will avoid humans whenever possible; it is beneficial in its natural habitat and should not be destroyed.

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## Footnotes

[1] Captain, USAF, Biomedical Sciences Corps; Medical Entomologist, Epidemiology Division, USAF School of Aerospace Medicine, Brooks Air Force Base, Texas 78235-5301.

[2] Captain, USAF, Biomedical Sciences Corps; Chief, Environmental Health Services, AFSC Hospital Edwards, Edwards Air Force Base, California 93523-5300.

[3] M. D., Major, USAF, Medical Corps; Flight Surgeon, AFSC Hospital Edwards, Edwards Air Force Base, California 93523-5300.

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